

Important Advances in Clinical Medicine

Epitomes of Progress — Dermatology

The Scientific Board of the California Medical Association presents the following inventory of items of progress in dermatology. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist the busy practitioner, student, research worker or scholar to stay abreast of these items of progress in dermatology which have recently achieved a substantial degree of authoritative acceptance, whether in his own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Dermatology of the California Medical Association and the summaries were prepared under its direction.

Reprint requests to: Division of Scientific and Educational Activities,
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Current Status of Retinoic Acid and Benzoyl Peroxide in the Treatment of Acne

USED CORRECTLY, combination topical therapy with retinoic acid and benzoyl peroxide applied respectively in the evening and the morning has been a significant addition to the agents available for the treatment of mild to severe forms of acne, either alone or as adjunctive therapy.

Retinoic acid increases epidermal surface and follicular duct wall turnover and decreases the cohesiveness of the horny cells produced by these epithelia. In turn, this reduces the formation of comedones in the follicular duct and decreases the thickness of the epidermal and follicular duct stratum corneum, which may enhance transepidermal and transfollicular penetration. This would tend to increase the concentration of agents such as topical and systemic antibiotics in the vital intrafollicular duct location where the first morphologic evidence of acne is seen as a retained, increased horny layer.

Benzoyl peroxide appears to have a comedolytic effect similar to that described above for retinoic acid, but to a much lesser degree. In

addition, it appears to reduce free fatty acids in skin surface lipid, probably primarily as a result of the reduction in *Propionibacterium acnes*, which have been implicated in a variety of possible ways (see epitome by Puhvel in this issue) in the etiopathogenesis of acne.

It also has been suggested that benzoyl peroxide may act to reduce the irritability of the skin produced by retinoic acid by tending to produce a thickening of the stratum corneum, counteracting the thinning produced by retinoic acid.

Recently, conflicting and as yet incomplete studies of the combined application of retinoic acid and ultraviolet light on the skin of albino hairless mice have shown that under some circumstances the retinoic acid appeared to act to accelerate the appearance of and increase the number of squamous cell carcinomas produced whereas under others it appeared to act as a protective factor, reducing the incidence of ultraviolet-induced skin cancer in these mice. Retinoic acid itself is not carcinogenic.

Until the issue is more fully resolved and it can be determined whether these conflicting findings do in fact have any relevance to the clinical use of retinoic acid in humans whose skin is